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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

CHAU, LINDA N

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No. 10/535,681	Applicant(s) YOSHIOKA ET AL.	
	Examiner LINDA CHAU	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2, 7, 9, and 10 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 4-7, 9-12, and 14-15 of U.S. Patent No. 6,773,121. Although the conflicting claims are not identical, they are not patentably distinct from each other. Regarding claims 1-2, while it is recognized that the patent does not disclose the molecular weight of a siloxane oligomer in terms of ethylene glycol or a molecular weight of polystyrene in a fluorine compound, however, it is clear that the claims are open to the inclusion of having at least 500 molecular weight in terms of ethylene glycol in a siloxane oligomer and having at least 5000 molecular weight in terms of polystyrene in a fluorine compound. Further, since the patent disclose of having 10-80 wt.% of a siloxane oligomer, it is clear that the range of

Art Unit: 1794

the present claim 2 encompass the patent claim. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use siloxane oligomer and fluorine compound with the molecular weight as presently claimed in order to obtain scratch-proof property and stain resistance.

Claims 1-2, 7, 9, and 10 are directed to an invention not patentably distinct from claims 1-2, 4-7, 9-12, and 14-15 of commonly assigned US 6,773,121. Although the conflicting claims are not identical they are not patentably distinct for the reason set forth above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned US 6,773,121, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Art Unit: 1794

Specification

The disclosure is objected to because the phrase “in terms of ethylene glycol” in claim 1 is confusing, since in the specification (page 5), the molecular weight of oligomer was determined by GPC (Gel Permeation Chromatography or Size Exclusion Chromatography). However, ethylene glycol, which is a single species HO-CH₂CH₂-OH, cannot be used as a standard for constructing a calibration curve for determining the molecular weight of the oligomer. It is against the GPC principle for molecular weight determination, which simply does not work. Therefore, the specification is objected.

Claim Objections

Claim 10 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should not refer to two sets of claims to different features, i.e. antireflection film of claim 7 and optical element of claim 9. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed

Art Unit: 1794

invention. There is a lack of written description for “at least one” crosslinking agent, which encompasses using mixtures of the crosslinking agents for which there is no support in the specification.

Claims 4 and 12-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is a lack of written description for “at least one” acid generating agent, which encompasses using mixtures of the acid generating agents for which there is no support in the specification. Further, in claim 4, the phrase “azine-series” component has no support in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, the phrase "azine-series" renders the claim indefinite because it is unclear what is meant by “azine-series” or what components are encompassed by this phrase.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1794

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 1-2 ,5-6, 9-10, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakada et al (US 6,472,012), in view of Ito et al. (US 2003/0157317), and further in view of Scholz et al. (US 5,723,175)

Regarding claims 1-2, Nakada teaches an antireflection film containing a silicon compounds, further comprising of a fluorine compound (col. 2, lines 38-42) to form a polysiloxane solution (col. 3, lines 10-15). Nakada fails to disclose that molecular weight of the fluorine compound or that the fluorine atom content is more than 20 wt. %. Nakada teaches that the silicon compound (B) contains fluorine atoms and is obtained from a polysiloxane solution employing a fluoroalkylsilane (Col. 4, Lines 4-20). Further, Nakada teach that the silicon compound (B) has a formula (4), where the integer is from 0 to 12 (Col. 4, Lines 4-20) and that the content of the silicon compound (B) is from 0.05 to 4.5 mol per mol of the silicon compound (A) (Col. 4, Lines 28-29). However, there is no disclosure in Nakada of the number average molecular weight of the fluorine compound, the fluorine atom content of the composition, or that

Art Unit: 1794

the composition comprises siloxane oligomer. Ito teaches a fluorine-containing silane with average molecular weight based on polystyrene of 500-10000 to produce coating with low friction resistance and scratch resistance ([0126-0133] and [0147]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Nakada possess the molecular weight in a fluorine compound, as taught by Ito, in order to enhance low friction resistance and scratch resistance. Per claim 2, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose amount of silicon compound (B) containing fluorine in order to produce composition with fluorine content, including 20% or more as presently claimed, in order to produce composition with suitable refractive index that is in the form of a uniform solution. Furthermore, Scholz teaches a coating composition having an antireflective properties (Title) comprising of a siloxane oligomer (Abstract). Although Scholz doesn't explicitly state the molecular weight of the siloxane oligomer in terms of ethylene glycol, it would have been obvious that Scholz's siloxane oligomer to have a molecular weight of 500 in terms of ethylene glycol, given that Scholz teaches that it will provide antireflection and antifog properties (col. 3, lines 13-14). Further, since Scholz teaches that coating comprises a siloxane oligomer and metal oxides (Abstract), wherein the siloxane oligomer further comprises one hydrophilic anionic group (col. 3, lines 28-34) having a molecular weight of less than 2000 (col. 10, lines 11-12)m which would be clear that Scholz's siloxane oligomer having a molecular weight of at least 500. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nakada's compound to incorporate a siloxane as taught by Scholz in order to optimize the antireflective properties.

Art Unit: 1794

Regarding claim 5, Nakada teaches a cured film obtained by curing a curing resin composition (Col. 2, Lines 34-37).

Regarding claim 6, Nakada doesn't teach a ratio of a peak intensity of a silicon atom to peak intensity of a fluorine atom. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to expect the ratio of the peak intensity to be similar, since Nakada, in combination of Nishida or Nishikawa or Scholz, is consistent with the materials taught by the applicants.

Regarding claim 9, Nakada teaches an optical element on one surface of an antireflective film (Abstract).

Regarding claim 10, Nakada teaches an image display to which an antireflection film or the optical element is mounted (Abstract).

Regarding claims 15 and 18, (A) and some of (B) are explained above. Nakada doesn't teach the solid weight ratio, however Nakada does teach that the silicon compound (B) has a formula (4), where the integer is from 0 to 12 (Col. 4, Lines 4-20) and that the content of the silicon compound (B) is from 0.05 to 4.5 mol per mol of the silicon compound (A) (Col. 4, Lines 28-29). Further, Ito teaches a fluorine-containing silane with average molecular weight based on polystyrene of 500-10000 to produce coating with low friction resistance and scratch resistance ([0126-0133] and [0147]). Given with the teachings of the siloxane oligomer and fluorine compound as set forth above, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the fluorine compound with the solid weight ratio of 0.05-.9 in order to produce composition with effective refractive index, low friction resistance, and

Art Unit: 1794

good scratch resistance. Furthermore, Nakada teaches that the composition is curable by heat (Col. 5, Lines 13-16; Col. 5, Lines 25-27).

Claims 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakada et al (US 6,472,012), in view of Ito et al. (US 2003/0157317), in view of Scholz et al. (US 5,723,175), and further in view of Nishikawa et al. (US 2002/0197485).

Regarding claim 16 and 19, Nakada teaches an antireflection film as set forth above but doesn't teach that the fluorine compound contains a hydroxyl group. Nishikawa teaches a fluorine compound containing a hydroxyl group [0144-0145]. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nakada's fluorine compound to have a hydroxyl group as taught by Nishikawa in order to increase the reactivity of the fluorine compound [0154].

Claims 3-4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakada et al (US 6,472,012), in view of Ito et al. (US 2003/0157317), in view of Scholz et al. (US 5,723,175), and further in view of Tsukada et al. (US 6,129,980).

Regarding claim 3, Nakada teaches an antireflection film as set forth above, however, fails to disclose a crosslinking compound. Tsukada teaches an antireflection film comprising of a composition composed of an organosiloxanes (Abstract), wherein further comprising hardening agents of melamine resin and an aromatic isocyanate (col. 21, lines 33-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nakada's

Art Unit: 1794

antireflection film to have melamine resin or isocyanate in order to have a high film-formability (col. 21, lines 39-40).

Regarding claim 4, Nakada fails to disclose an acid generating agent. Tsukada teaches an antireflection film (Abstract) comprising of a hardening promoter of p-toluensulfonic acid (col. 17, lines 31-38). It would have been obvious to one of ordinary skill in the art at the time of the invention to have an acid generating agent in Nakada's antireflection film, as taught by Tsukada, in order to rapidly harden the composition (col. 17, lines 31-32).

Regarding claim 17, Nakada does not teach that a crosslinking agent is an amount of 70 parts or less by weight with respect to the fluorine compound. Tsukada teaches hardening agents of melamine resin and an aromatic isocyanate (col. 21, lines 33-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nakada's antireflection film to have melamine resin or isocyanate in order to have a high film-formability (col. 21, lines 39-40). Although Tsukada fails to teach the amount of the agents, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the composition for a desired high film-formability. Further, discovering the workable ranges only involves routine skill in the art.

Claims 3-4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakada et al (US 6,472,012), in view of Ito et al. (US 2003/0157317), in view of Scholz et al. (US 5,723,175), and further in view of Iguchi et al. (US 2002/0055064).

Regarding claims 3 and 17, Nakada teaches an antireflection film as set forth above, however, fails to disclose a crosslinking compound. Iguchi teaches an antireflective coating

Art Unit: 1794

comprising of a crosslinking agent of a melamine compounds [0021], with 1-15 wt. % [0026]. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nakada's composition to have a low amount of crosslinking agent in order to avoid deterioration of the film [0022].

Regarding claim 4, Nakada doesn't teach an acid generating agent. Iguichi teaches an acid generating agent [0033] of p-toluenesulfonic acid and triazine ([0035] and [0041]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nakada's composition to have the acid generating agent, as taught by Iguichi, in order to improve the shape of the article [0032].

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakada et al (US 6,472,012), in view of Ito et al. (US 2003/0157317), in view of Scholz et al. (US 5,723,175), and further in view of and in further view of Nakamura et al. (US 2001/0035929).

Regarding claims 7-8, Nakada teaches an antireflection film comprising a multi-layer film prepared by laminating thin films on the transparent substrate (Col. 1, Lines 16-22). Nakada doesn't specifically teach a hard coat layer in the antireflection film. Nakamura teaches an antiglare and antireflection film comprises of a hardcoat layer, herein refers to an antiglare layer (4), on a transparent substrate (2) (Abstract), wherein the hardcoat layer has irregularity of protrusions and depressions (Fig. 2). It is noted in the instant claim 8 that hard coat layer has antiglareness property, which therefore hard coat layer and anti-glare layer goes synonymously to each other. It would have been obvious to one of ordinary skill in the art at the time of the

Art Unit: 1794

invention to modify Nakada's antireflection film to have a hardcoat layer, as taught by Nakamura, in order to have no light scattering [0066].

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakada et al (US 6,472,012), in view of Ito et al. (US 2003/0157317), in view of Scholz et al. (US 5,723,175), and further in view of Taruishi et al. (US 6,572,973).

Regarding claims 7-8, Nakada teaches an antireflection film comprising a multi-layer film prepared by laminating thin films on the transparent substrate (Col. 1, Lines 16-22). Nakada doesn't specifically teach a hard coat layer in the antireflection film. Taruishi teaches an anti-glare layer made of the hard-coat material containing filler (Col. 9, Lines 32-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a hard coat layer as taught by Taruishi in the antireflection film of Nakada to provide enhanced antiglare and antireflective property. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide protrusions and depressions on the hard coat layer, since Taruishi teaches fillers, where the fillers can cause irregularities on the layer, which therefore enhance the antiglare properties.

Response to Arguments

Applicant submit a Declaration under 37 C.F.R. §1.132 stating that the subject matter of the Miyatake reference and the claimed invention were, at the time the claimed invention was made, subject to an obligation of assignment to the same entity, NITTO DENKO CORPORATION. Therefore, the rejection has been withdrawn.

Art Unit: 1794

Applicant's arguments have been fully considered and are persuasive. New grounds of rejection is made in view of Nakada et al (US 6,472,012), in view of Ito et al. (US 2003/0157317), in view of Scholz et al. (US 5,723,175),

Applicant's arguments with respect to 16 and 19 have been fully considered and are persuasive and have been withdrawn. Therefore, Nishikawa et al. (US 2002/0197485) has been applied to show that a fluorine compound containing a hydroxyl group in an antireflection film is known in the art [0144-0145].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINDA CHAU whose telephone number is (571)270-5835. The examiner can normally be reached on Monday-Thursday, 8:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Linda Chau/

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794